

REMARKS

In response to the above Office Action, the claims have been amended to avoid the Examiner's objection to claim 3 (and claim 18), to avoid improper multiple dependency, and to place the claims in more traditional U.S. format. While the Examiner maintains that claim 4 was an improper multiple dependent claim, the claim was, in fact, proper and should have been considered. See M.P.E.P. §608.01(n)(A), seventh example of an acceptable multiple dependent claim. In any event, it has now been amended to depend from just claim 2.

The specification has also been amended to comply with Rule 77 and to provide antecedent basis for tetraisobutyldialuminoxane. Both this compound and tetraisobutylaluminoxane are the same compound. Also enclosed is an Abstract on a separate sheet of paper as required by M.P.E.P. §608.01(b).

In the Office Action, the Examiner rejected claims 1-3 and 16-18 under 35 U.S.C. §103(a) over U.S. Patent No. 6,774,079 to Taylor et al. (hereafter Taylor) in view of U.S. Patent No. 6,605,561 to Saudemont et al. (hereafter Saudemont).

The present invention relates to a specific method for the preparation of a supported transition metal catalyst system, to its use in the (co-)polymerization of olefin monomers, particularly ethylene, and to a catalyst component. By the claimed specific order of addition of the catalyst components, the resultant catalyst system has an improved activity profile compared to prior art systems.

Specifically, claim 1 of the present invention requires that the aluminoxane and the ionic activator be mixed together in a suitable solvent before addition of the support material and before addition of the transition metal compound.

Taylor, which is a prior patent of the assignee, discloses the mixing together of a transition metal compound with an ionic activator before treatment with the support. However, there is no teaching of the use of an aluminoxane, and in particular, no teaching of its use as a component after mixing the ionic activator. Thus there are several important differences between Taylor and the present invention.

Saudemont teaches that aluminoxanes are known cocatalysts for metallocene complexes. This is well known, but it is the specific way in which the present invention utilizes the aluminoxanes together with the ionic activators to form a catalyst component prior to addition of the support and then finally addition of the transition metal compound that is a key of the present invention.

The Examiner maintains that while Taylor teaches the present invention except for aluminoxanes as cocatalysts, Saudemont teaches they are well known as cocatalysts for metallocenes. Hence the present claims are obvious over the combination of Taylor and Saudemont.

It is submitted that it may have been obvious to use aluminoxane as a cocatalyst in the process of Taylor, but this still does not meet applicants' invention because Taylor does not teach the specific order of addition of the components as set forth in claim 1. Note that the claim specifically requires that the aluminoxane and ionic activator first be mixed together in a suitable solvent before either are mixed with the support material or the transition metal compound.

In Taylor the ionic compound is mixed together with the transition metal compound and optionally the support material. Thus, even if it was obvious to include an aluminoxane in Taylor in view of Saudemont, the most it could be said that would be

apparent to one skilled in the art would be to mix it simultaneously with the above two or three components or subsequently. Neither, however, is applicants' claimed method for the preparation of the catalyst.

As required by M.P.E.P. §2143, for a claim to be considered *prima facie* obvious in view of a combination of references, the combination must teach or suggest all of the claims' limitations. Since the specific order set forth in claim 1 is not disclosed in Taylor or Saudemont, even in combination, the claim cannot be considered obvious over this combination of references. Its withdrawal as a ground of rejection of claim 1 and claims 2-10 dependent therefrom under §103 is therefore requested.

Process claims 11-15 relating to the (co-)polymerization of olefin monomers, and in particular, ethylene include the same catalyst preparation steps, so it is believed they are not obvious over the cited combination of references for the same reasons expressed above.

With respect to claims 16-18, these relate to the key feature of the claims which is a catalyst component comprising the reaction product of (a) an aluminoxane and (b) an ionic activator. Neither Taylor nor Saudemont discloses or suggests such a reaction product. Accordingly, it is believed these claims are also not obvious over the cited combination of references.

In the Office Action, the Examiner provisionally rejected the claims for obviousness-type double patenting over the claims of application No. 10/524,730. The claims of this application relate to a process for the preparation of a supported transition metal catalyst wherein an organometallic compound and an ionic activator having a cation and an anion are mixed together before they are mixed with the support material

or transition metal compound. In contrast, the present claims require the mixing together of an aluminosilane and an ionic activator, wherein the anion has at least one substituent comprising a moiety having an active hydrogen. In addition, the claims of application No. 10/524,730 require that the ratio of organometallic compound to ionic activator are in the range of 0.1 to 2.0, whereas in the present application the molar ratio of aluminium (from the aluminosilane) to ionic activator is in the range of 20 to 0.1.

Thus the claims of the two cases are quite different and not as similar as argued by the Examiner and should not be considered obvious over one another. In any event, applicants will defer further consideration of this matter until such time as the claims of application No. 10/524,730 are, in fact, patented.

The Examiner also rejected the claims for obviousness-type double patenting over the claims of U.S. Patent No. 6,818,712. This patent also teaches the use of a combination of an organometallic compound and an ionic activator. The organometallic compound is an alkylaluminium compound, for example, triethylaluminium.

In contrast, the present claims require the combination of an aluminosilane and an ionic activator wherein the anion has at least one substituent comprising a moiety having an active hydrogen. In addition, the claims of U.S. Patent No. 6,818,712 require a final step of the addition of another organometallic compound after the addition of the metallocene.

Accordingly, it is submitted that the claims of the cases are quite different and not as similar as argued by the Examiner, and the claims of this case should not be considered obvious over those of the patent. Moreover, just because the invention of

the present claims might be an "improvement" of claims of the patent does not make it obvious.

The Examiner did not cite the pending application or U.S. Patent No. 6,818,712 in the Notice of References Cited, so applicants are simultaneously filing an Information Disclosure Statement that cites these two references so they can be considered cited references in the issued patent.

It is believed claims 1-18 are in condition for allowance.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Attachments: Abstract

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